UNITED STATES PATENT AND TRADEMARK OFFICE

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10/540,325	06/22/2005	Patrice Hameau	HAMEAU1	1270

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EXAMINER
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *22 June 2005*.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-9* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-9* is/are rejected.
7) ☒ Claim(s) *1 and 7* is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some * c) ☐ None of:
       1. ☒ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *6/22/2005*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The instant application having Application No. 10/540325 filed on 6/22/2005 is

presented for examination by the examiner.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35

U.S.C. 119(a)-(d). The certified copy has been received, filed on 06/22/2005.

Drawings

The subject matter of this application admits of illustration by a drawing to

facilitate understanding of the invention. Applicant is required to furnish a drawing

under 37 CFR 1.81(c). No new matter may be introduced in the required drawing.

Each drawing sheet submitted after the filing date of an application must be labeled in

the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR

1.121(d).

Claim Objections

Claim 1 is objected to because of the following informalities: memory allocation

units are referred to later by the language "allocation units". This causes a question as

to whether the two are one and the same. Adding the word "memory" in every place

that allocation units are recited would clear this matter up. Appropriate correction is

required.

Claim 7 is objected to because of the following informalities: "the applications" has no antecedent basis. This poses the question of what is the application and how many are there. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "typically be" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Since this language is present in the independent claim 1, all dependent claims are likewise rejected.

As per claim 2, this above indefinite phrases causes a contradiction about the memory allocation. Claim 1 recites that memory allocation units may typically be a page OR a block. Then claim 2 go on to recite that the memory allocation unit IS a page. Therefore claim 2 states that the memory allocation is (i) a page OR a block and is (ii) a block. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated

by USP 6,282,618 to Flenley, hereinafter Flenley.

As per claim 1, Flenley teaches a method for securing by software confinement,

a computer system which executes codes which manipulate data (see Abstract),

involving:

- at least one memory manager [shared memory controller] managing memory

allocation units which may typically be a page with a fixed size or a block with a variable

size (col.3, lines 19-20 & col. 3, lines 66- col. 4, lines 2), and

- at least possessors and requesters of memory allocation units which may typically be

an application [web page] of the user of the operating system of the computer system or

the operating system itself (col. 3, lines 14-15),

said method comprising the following steps:

- an allocation of memory performed by the memory manager upon request from

another component of the operating system which transmits to said memory manager,

the identity of the requester (col. 3, lines 14-15);

- a check by the aforesaid memory manager of the whole of the allocation units, each

being associated with a possessor of the memory allocation unit [checks memory space

for existing webpage] (col. 3, lines 47-55);

- an encryption of the data of each possessor by means of a key associated with this

possessor (col. 4, lines 36-39;

- a check by the memory manager, for each request to access a memory allocation unit, of the identity of the requester; if this identity is not identical to that of the possessor of said memory allocation unit, then access to the memory allocation unit is refused by the memory manager (col. 4, lines 62-65 and col. 5, lines 6-9); and

a performance, by means of the memory manager, of encryption (in the case of a write request)[stored in shared memory] (col. 4, lines 40-45) or decryption [GetVariableEnc] (in the case of a read request) of the relevant data with the key associated with the possessor, this key being at least recalculated by the memory manager (col. 4, lines 46-47).

As per claim 2, Flenley teaches the allocation unit is the page (col. 3, lines 39-40), and the memory manager, when it receives a request for allocating a block on behalf of a possessor of a memory allocation unit, first searches for a page with the same possessor so that all the blocks allocated by said possessor are found grouped in one or several dedicated pages (col. 3, line 67- col. 4, line 14). Flenley teaches that data is group by each web page accessing the shared memory whereby all is needed in an offset pointer to direct the possessor to the needed data inside the block (col. 3, line 35).

As per claim 3, Flenley teaches transmission of the identity of the requester is accomplished either by managing a current context, or by passing parameters to the functions of the memory manager (col. 5, lines 40-43).

As per claim 5, Flenley teaches the memory manager associates the key with each set of possessor and memory allocation unit instead of associating a unique key with each possessor (col. 4, lines 40-45). Flenley teaches the memory allocation unit, CCB, has a possessor and key.

As per claim 7, Flenley teaches the memory manager integrates into each memory allocation unit, an area with which the integrity [validity] of the latter may be checked [checks the validity of the parameters] (col. 3, lines 57-61).

As per claim 8, Flenley teaches combining with a physical protection mechanism (col. 4, lines 35-36).

As per claim 9, Flenley teaches implementation on an embedded system [ATM] such as a terminal of the portable telephone type, a bank payment terminal, a portable payment terminal, a digital assistant or PDA, a chip card (col. 5, line 23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flenley in view of USP 7,353,281 to New, Jr. et al., hereinafter New.

As per claim 4, Flenley is silent is explicitly teaching the memory manager

dynamically calculates the key of a possessor from a secret associated with said

possessor and a so-called master key to which only the memory manager has access.

Flenley does however teach as an embodiment an ATM card being presented to an

ATM machine in order to authenticate the user of the card based on personal

identification stored on the card. New takes this process one step further by generating

the encryption key based on the user's identification and a private key [master key] of

the server hosting the applications (col. 5, lines 5-10 and col. 6, lines 26-36). New's

way of generating the encryption key is more secure than Flenley's because it does not

take a user's secret information into forming the encryption key. The use of

asymmetrical cryptography is well known in the art. It would have been obvious at the

time of the invention to one of ordinary skill in the art to incorporate New's dynamic

calculation of a key from a secret associated with the possessor and the master key into

Flenley's system because it would protect the secret information of the user from an

attacker. Protection of this assures the user is who he says he is.   The function of

New's teaching would have been predictable to one of ordinary skill in the art at the time

of the invention.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flenley in

view of USP 7,333,956 to Malcolm.

As per claim 7, Flenley does not explicitly teach associating different security

levels with the applications and using different encryption means according to the

associated security level. Flenley does teach that his method has the option of using

encryption or not. Malcolm security system invokes a more granular strategy by

allowing the system to choose the appropriate level of security by using different levels

of encryption (col. 36, lines 31-41). As one of ordinary skill in the art knows, different

encryption algorithms are stronger than others. Also one of ordinary skill knows that

key length also carries with it a measure increases strength. Having the choice of

encryption strength not allow inherently increases the security of the system but also

avoids extraneous overhead by having to encrypt everything to the highest possible

level when only certain cases need this type of security. Whereas Flenley has an all or

not approach to encryption, incorporating Malcolm's teaching would provide predictable

results of more security without inefficiency. Therefore it would have been obvious to

one of ordinary skill in the art at the time of the invention to modify the teachings of

Flenley with those of Malcolm in order to improve security without sacrificing efficiency.

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

US Patent Application Publication 2003/0188178 to Strongin et al., discloses a

memory, system, and method for providing security for data stored within a memory

and arranged within a plurality of memory regions.

US Patent Application Publication 2003/01826458 to Teramoto et al., discloses a

process creates the encrypted data region to be shared according to the common key

generated as a result of the safe key exchange, and the other process maps that

region to its own address space or process space.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MICHAEL R. VAUGHAN whose telephone number is

(571)270-7316. The examiner can normally be reached on Monday - Thursday, 7:30am

- 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. R. V./
Examiner, Art Unit 2131

/Ayaz R. Sheikh/
Supervisory Patent Examiner, Art Unit 2131